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1 ATGGCCCCG AGCAAGCCG GCGGGCGCTG CCGCCCCCGT GCGAGCCCGC GCGGGCGCGG CCGGTACCGC CTCGCCGAGA GCGGGGGGG GCGGGGGCGC  
TACCGGGGG TCGTTCGGC CGGCCGCGAC GGGCGGGGCG CGCTCGGGG CGGCCCGCGG GGCATGGCG GAGCGCTCT CGGCCCGCCC GCGCCCCGCG  
1 M A P Q Q G R P A L P A R C E P P A A P P V P P R R E R G G R G A R  
101 GCGGGCCCG GGTGTCCGG GGTGCGGGG GCGGGCGCG GCGCGGGGTA AGTGGTGT AGTCGGCGAC GCGCGGTGG GCAAGACCAG  
CGCCCCGGC CCACAGGCC CCAGCCCCG CGGCCCGCG CGGGTCCCT GCGCGCCAGT TCACGCACGA CCAGCGCTG CCGCGCCACC CGTTCGTGTC  
35 G P G V S G R A G G A E G R G V K C V L V G D G A V G K T S  
201 CCTGTGTGTC AGCTACACA CTAACGGCTA CCCCACGAG TACATCCCTA CGGCCTCGA CAATCTCTCG GCCGTGGTGT CTGTAGATGG GCGGCCTGTG  
GGACCACAG TCGATGTGT GATTGCCGAT GGGGTGGCTC ATGTAGGAT GCCGGAAGCT GTTGAAGAGC CGGCAACACA GACATCTACC CGCCGGACAC  
68 L V V S Y T T N G Y P T E Y I P T A F D N F S A V V S V D G R P V  
301 AGACTCCAG TCTGTGACAC TGCAGGACAG GATGAGTTG ACAAGCTGAG GCCCTCTGC TACACCAACA CAGACATCTT CCTGTGTGC TTCAGGTGG  
TCTGAGGTG AGACACTGT ACGTCTGTG CTACTCAAC TGTTGACTC CCGGAGACG ATGTGGTGT GTCTGTAGAA GGACGACACG AAGTCGCACC  
101 R L Q L C D T A G Q D E F D K L R P L C Y T N T D I F L L C F S V V  
401 TGAGCCCCC ATCTTCCAG AACGTGGCG AGAAGTGGT TCCAGAGATT CGACGTCACT GCCCAAGGC CCCCATCATC CTGCTCGGA CACAGTCGA  
ACTCGGGG TAGGAAGTC TTGCACCCG TCTTCAACCA AGTCTCTAA GCTGCAGTA CGGTTTCCG GGGGTAGTAG GACCAGCCT GTGTACGCTT  
135 S P T S F Q N V G E K W V P E I R R H C P K A P I I L V G T Q S D  
501 CCTCAGGAG GACGTCAAAG TGCTCATAGA ACTGGACAAG TGCAAGAGA AGCCGGTGC TGAAGAGCG GCGAAGCTGT GCGCGGAGGA AGTCAAAGCT  
GGAGTCCCTC CTGCAGTTTC ACGAGTATCT TGACCTGTTC ACGTTTCTCT TCGGCCACGG ACTTCTCCG CGCTTCGACA CCGCCTCCT TCAGTTTCGA  
168 L R E D V K V L I E L D K C K E K P V P E E A A K L C A E E V K A  
601 GTCTCTACA TCGAGTGCTC AGGTTGACT CAGAAAACC CAGAAAGGT TTTCGACGCC GCCATTGTTG CTGGTATCCA GCATCAGAC TCCCAGCTAC  
CAGAGGATGT AGCTCACGAG TCGCAACTGA GTCTTTTGG AGTTTCTCCA AAAGCTGCGG CCGTAAACAAC GACCATAGGT CGTGAGTCTG AGGTCGATG  
201 V S Y I E C S A L T Q K N L K E V F D A A I V A G I Q H S D S Q L Q  
701 AGCCAAAGAA GTCTAAAGC AGGACCCCG ATAAGGTGCG GGACCTGTCC AAGTCTTGGT GGAGGAAGTA TTGTGCTGCTG GCCTGACTCT CGCAATAGC  
TCGGTTTCTT CAGATTTTCG TCCTGGGCGC TATTCACGC CTGGACAGG TTCAGAACCA CCTCCTTCAT AACGACGGAC CGGACTGAGA GCGTTTATCG  
235 P K K S K S R T P D K V R D L S K S W R K Y C C L A O  
801 AGGTGTTTAA GCTGCAACAG CTCTTTATGG ACGAGGCTGT CATAGGATGA GCCCAAAGC ACCCTCTTCT GCCCTTAACT TCCTGTGTG GGGAGCTTAG  
TCCACAAATT CGACGTTGTC GAGAAATACC TGCTCCGACA GTATCCTACT CGGGTTTTCG TGGGAAGA CGGGAATGA AGGACACAG CCGTCAATC  
901 GGCTGAGATT CATATGCAA ATACGTTTTT TTAATAATTG AAAGTTACAT TTTTTTCTG TTAAGTCTGG AAGCTTTGAG CTGTAGACCT CCGATTAAT  
CCGACTCTAA GTATACGTTT TATGCAAAA AATTTTAACT TTTCAATGTA AAAAAAGAC AATTCAGACC TTCGAAACTC GACATCTGGA GGCCTAATTA

FIG.- 1A

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1001	TTATATTCCA	TATGAAAAGG	GCTCTTTCAA	GCGGGGTGTC	AGCATGAAGT	TCTGCTGTGT	TGTACAGGAC	AAAGAGAAT	GAATGGGACC	TTCTCTCTGAT
	AAATATAAGGT	ATACTTTTCC	CGAGAAAGTTT	CGCCCCACAG	TCGTACTTCA	AGACGACACA	ACATCTCCTG	TTTCTCTCTTA	CTTACCCCTGG	AAGAGGACTA
1101	TAAGSGCTAC	TGAGGGCTCA	GTGCAGGGCA	CGTGTGCACC	AGGCTTGGTG	AGAGTGAGCA	AGCGTGAGCT	TTGAAAACCAC	ACGAGCCACC	CCCGGTTTTTG
	ATTCCCGATG	ACTCCCGAGT	CACGTCCCGT	GCACACGTGG	TCCGAACCCAC	TCTCACTCGT	TCGCACTCGA	AACTTTGGTG	TGCTCGGTGG	GGGCCAAAAC
1201	TAAGGGCAAA	GATCTGAAAC	CAGCAAGGGC	CTTCTGCTTA	CGAAACCTCG	AGCCCCATCC	TTCTCTTTTAC	TCAGATTCTC	TTAGGATTTT	AAAAACAACCA
	ATTCCCGTTT	CTAGACTTTG	GTGCTTTCCG	GAAGACGAAT	GCTTTGGAGC	TCGGGTAGGG	AAGACAAATG	AGTCTAAGAG	AATCCTAAAA	TTTTTGTGGT
1301	AACATCCAC	AGCCTACTGG	CATAGTGTG	GCGAACAGTG	CACCTTGCTTG	TTACGGTTTT	TTTTTGTNTT	TTTAAATCAC	GTGACCAGTT	ATATTGCTAT
	TTGTAGGGTG	TCGGATGACC	GTATCACAA	CGCTTGTCAC	GTGAACGAAC	AATGCCAAAA	CAAAACAAAA	AAATTTAGTG	CACGTGTCAA	TATAACGATA
1401	GAAATGGTG	GAGATGCCTC	GTAGAAGGCG	AGTGCTGGGT	GCACATGTGA	CATTTTCTTC	AGGAGCGGAC	TCATGGTGAG	ACCAGAGAGG	GCTCTTAGCT
	CTTTTACCAC	CTCTACGGAG	CATCTTCCGC	TCACGACCCA	CGTGACACT	GTAAAGAAAG	TCCCCTCGCTG	AGTACCACCTC	TGGTCTCTCC	CGAGAATCGA
1501	TGCAGGACTG	GCTTCTGTCAG	GGCATCTGTG	TCCTGCTGTT	AAAAGCAGGA	GGAGGTGCTT	GTCTGGGAGC	TTTAAAGTGTG	CTGGGCTCAT	ATCGTCCCGT
	ACGTCTCTGAC	CGAAGACGTC	CGTAGACAC	AGGACGACAA	TTTTTCGTCT	CCTCCACGAA	CAGACCCCTCG	AAATTCACAC	GACCCGAGTA	TAGCAGGGCA
1601	TTGCAAGGAA	TTGGGCCACC	TTGAGAGGCC	ATAGTTGATG	GCTATGGGAC	ACACACACAC	TTTTTCTCTTA	AGTCCACCAA	AATGCCTGCC	TGTACACACA
	AACGTTCTCT	AACCCGGTGG	AACTCTCCGG	TATCAACTAC	CGATACCCCTG	TGTGTGTGTG	AAAAAGGAAT	TCAGGTGGTT	TTACGGACGG	ACATGTGTGT
1701	CACACACACA	CACACACACA	CACACACACA	CACACTGGCT	GGTTTGCTGA	TGGAACCCCTT	AGACCACCCCT	CCCACCCCCA	CCCTCCCCCA	AGCATGGGCTG
	GTGTGTGTGT	GTGTGTGTGT	GTGTGTGTGT	GTGTGACCGA	CCAAACGACT	ACCTTGGGAA	TCGTGTGGGA	GGGTGGGGGT	GGGAGGGGT	TCGTACCCGAC
1801	CAAGTGTGAG	GGCACCACAC	CTTCTCTCTC	TTGACATTTT	TTTGAACAGA	CATCATTTTG	TAGGATCTTA	ATTTATACAT	TTTTTTCAGG	TCATAAAAATG
	GTTCACAGTC	CCGTGGTGTG	GAAGGAGAAG	AACTGTAAAG	AACTTGTCT	GATGTAAAC	ATCTAGAAAT	TAAATATGTA	AAAAAAGTCC	AGTATTTTAC
1901	TGGGATGAAC	ATACTTTTGA	CCCCAGTGCC	TTCAGGGTCC	ATTGACTAGG	GAGGCACCTGT	CTTAGGGGAC	AGGTATGTGC	AAGGCCTTAC	CCACCAGTGG
	ACCCCTACTTG	TATGAAACTT	GGGGTCACGG	AAGTCCCAGG	TAACTGATCC	CTCCGTGACA	GAATCCCCCTG	TCCATACACG	TTCCGGAATG	GGTGGTCACC
2001	CTTCTCGCTG	CAGTCAATGT	TTGTGGCACT	TGTTCTTTAA	GGTGAGGGTC	TTATGACCGA	CTGTTCTGAG	ACAGCCCTGT	GTGAGGCAAG	CTCTTTTCACA
	GAAGAGCGAC	GTCCAGTACA	AACACCCGTGA	ACAAGAAATT	CCACTCCCAG	AATACTGGCT	GACAAGACTC	TGTCGGGACA	CAGTCCGTTC	GAGAAAGTGT
2101	GGGTTGTAGG	TATTTCCAAG	ACGCCATAGG	AACCAGACAG	TGAATCATAG	CTATCAGTTT	GCTGTGGGCA	AGGAACCTCT	TTTTTGGCCAC	CTGGTAACAA
	CCCAACATCC	ATAAAGGTTT	TGCGGTATCC	TGCGTCTGTC	ACTTAGTATC	GATAGTCAAA	CGACACCCCTG	TCCTTGGAGA	AAAAACGGTG	GACCATTTGT
2201	AAATTTATGT	CTGTAAATTT	TTTCTTGCTA	TTTAAAAAAA	AAAAAAAAAA	A				
	TTAAAAATACA	GACATTTTAA	AAAGAACGAT	AAATTTTTTT	TTTTTTTTTT	T				

FIG. 1B

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1 CCCACGGTC CGCTGAATGT ATGTTGGTTA GAAAGTAGCC TTCTTGCTTC CTGCCCATGG CCAGTTCTCT ACCCTCTCTT TGGTGTCTTT TGTGGGAGG
GGGTGGCAG GCGACTTACA TACAACCAAT CTTTCATCGG AAAGACGAAG GACGGGTACC GGTCAGAGG TGGGAGAGAA ACCACAAGAA ACACCCCTCC

101 GCACCTGGT TTGTGCGAGC CCTGGACTTC GAGAGGCTCC CAGAACCCAG GATCACCGC CTCTGTCTG TTTGCTTCAC TCCTTTCCCA GGGAGGACTT
CGTGACACCA AACAGCGTCG GGACCTGAAG CTCTCCGAGG GTCTTGGGTC CTAGTGGTCG GAGGACAGAC AAACGAAGTG AGGAAAGGGT CCCTCCTGAA

201 GGGACTGTCC TGTCTGACAG GACGATCTG AGTTCGCCGAA GCAAAACCAGC TCACCACATA GATAGCTAGT TTAAACAATG TTTTAAATA AGGCACCTC
CCCTGACAGG ACAGACTGTC CTGCTAGAC TCAAGGGCTT CGTTGGTCG AGTGGTGTAT CTATCGATCA AATTTGTAT AAAATTTAT TCCCGTGGAG

301 TGTTCACAAA GTGACATCTG CTGTGTTGTT TTCGAGGCC CTGACTCTTA CAAGGTTTGA AAAAAATGT GTGTATCCAT TCATGGGCTT GGTAGCCTTC
ACAAAGTTT CACTGTAGAC GACACAACAA AAGTCCGGA CTATGAGAAT GTTCCAACT TTTTATTACA CACATAGGTA AGTACCCGAA CCATCGGAAG

401 TGGTCACCTC AGTCCTGTGG CTCTTAACTT ATTGCCAAC AATATTCAAT TCCCCTCAGC TACAATGAAT TGCAAGCAAA AGATGTGAA AAAAAAGCACT
ACCACTGGAG TCAGGACACC GAGAAATTGAA TAACGGGTG TTATAAGTAA AGGGAGTCG ATGTTACTTA ACGTTCGTT TCTACAACTT TTTTTCGTGA

501 AATTAGTTT AAAATGTCAC TTTTGTGTTT TTATTCTACA AAAACCATGA AGTCTCTCT CTCTCTCTCT CTCTCTCTTA GTTGTAAAT CAGATTATGT
TTAAATCAAA TTTTACAGTG AAAACCAAA AATAAGATGT TTTTGGTACT TCAAGAGAGA GAGAGAGAGA GAGAGAGAAT CAACAATTA GTCTAATACA

601 TCTTTTGTG TTTTGTGTTT TAGTGATCA TGTTATGAG CAGAGTGGAG TTAAACAATC CTAGCTTAA AAAAAOCTA TTTAATGPAA GATATTCTAC
AGAAAAAAC AAAAAACAAA ATCACTAAGT ACAAATACTC GTCTCACCTC AAATGTGTTAG GATCGAAAT TTTTGTGGAT AAATTACAT CTATAAGATG

701 GCATCCTTCA GATATTTTGT ATATCCCTTA TGGCCTTTAG TCTGTACTTT TAATGTACAT ATTTCTGCT TGTGTGATTT GTAGATTCA CTGGTTAAAA
CGTAGGAAGT CTATAAAACA TATAGGGGAT ACCGAAATC AGACATGAA ATTACATGTA TAAAGACAGA ACACACTAAA CATCTAAAGT GACCAATTTT

801 GAGAGAACAT TGAAGGCTT ATGCCAAGTG GAAGATAGAA TATAAATAA AAATGTTACT TGTATATTGG TAAGAGGTTT CAGTTGCTCT TCAGCTAAT
CTCTCTTGTA ACTTCCGAA TACGGTTCAC CTTCTATCTT ATATTTTATT TTACAATGA ACATATAACC ATTCTCCAAA GTCAACAGGA AGTCGATTAA

901 CATGTAGAGA AATATTTTAG TTGAAGCCAC AAGAGACAGC TTAGGGCAGT TATGTGTTCA AATAACAGAA GAACAGACTT TTTTTTTTTT TTAACCAAAA
GTACATCTCT TTATAAAATC AACTTCGGTG TTCTCTGTGTCG AATCCCGTCA ATACACAAGT TTATTGCTCT CTTGTCTGAA AAAAAAATAA AATTTGGTTT

1001 CCCAACTGT TGGGAACCT CAATAGAGCT CTATATGTAT TGGAAATCT CTCTCCTAT ATATGTTCT TCAAAAAGAG AGAGAGATC
GGTTTGACA ACCCTTTGGA GTTATCTCGA GATATACATA ACCTTGTTTT CACCTTAAGA GAAGAGGATA TATACAAGGA AGTTTTTCTC TCTCTCTTAG

1101 AAGCAGATGG CTTAAAGCTG GTCACAGGAT TGCTCACATT CTTTGGCAT TATGCATGCG ACTTAATTGT TTGAGAGTGT GTTGCTATTG TAACATCCA
TTGCTCTACC GAAATTCGAC CAGTCTCCTA ACGAGTGTA GAAACCGTA ATACGTACGC TGAATTAAACA AACTCTCACA CAACGATAAC ATTGTAGGAT
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FIG. 2A

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1201 GAGATGAATC AAAAAGGCTC ACCCTCTCAC CCAGGACGAG CTTTTCAGCT TATATACACA TGCATGTGAT ATGCATGTGT GCATGCATGT  
CTCTACTTAG TTTTTCGGAG TGGGAGAGTG GGTCTCTGTC GAAAGTCGA ATATATGTGT ACGTACATGT ACACACACTA TACGTACACA CGTACGTACA

1301 TTGTATTTTT GTGCTTGCCA CTATAACTAT TGCACCTCTC TATTCGGTTT GACTGAAGAG GGTCTTGTG GGCATCTCTT GTGTCCAGT CTTTATGGGA  
AACATAAAAA CACGAACGGT GATATTGATA ACGTGGAGAG ATAAGCCAAA CTGACTTCTC CCAGAACAC CCGTAGAGA CACAGGGTCA GAAATACCCCT

1401 AGAAAGCAAG GGTCTGCAGA GAACAGGAAC TAAAGATCC CTGTGTGATG TGCATTAAT AGAAGGCCTC CTGCTTCTG GAAATGTAGA CCAGAATCTG  
TCTTTCGTTT CCAGACGCTT CTTGTCTCTG ATTCTTTAGG GACACACTAC ACGTTAATTA TCTTCCGGAG GACGAAAGAC CTTTACATCT GGTCTTAGAC

1501 GCCAGGACTG TAGACTGATA CATTATCTGG TCCCTTTCCTT TTTTCTTTTC CCTCCCTGCC CTCTCCCTTC GTGCTTTATG GATAACCTTG TAACATATTTG  
CGGTCTCTGAC ATCTGACTAT GTAATGACCC AGGAACCGGA AAAAGAAAG GGAGGGGAG AACGAAATAC CTATTGGAAC ATTGTATATAAC

1601 AAACCTTTAA AGGAACCAA GAATGCATTA TTACACACAC ACACACACAC ACACACACTA CAGTAGACCA ACATATAGAG  
TTTGGAAATT TCCTTTGGTT CTTACGTAAT AATGTGTGTG TGTGTGTGTG TGTGTGTGTG TGTGTGTGTG TGTGTGTGTG TGTGTGTGTG TGTGTGTGTG

1701 TGTTTAAAAAT AGCTTTTCTG GGCAAAATCA AACAACTGTG GGCTCTAGGA CGCACATCTG TTTCCGTTTT TCTTCAGTTG TATATTGACC AGTATTCTTT  
ACAAATTTTA TCGAAAAAGAC CCGTTTAAAT TTTGTTGAACA CCGAGATCCT CGGTGTAGAC AAAGGCAAAA AGAAGTCAAC ATATAACTGG TCATAAAGAAA

1801 ATTGCTAAAA CATATACTCG GGTAGCAAT GTACGATCT TTTCCCTTCC CATCTGGAG AGCATTCAG ACCTTCCCAG TACAGGAACA TCAATGAAGC  
TAACGATTTT GTATATGAGC CCCATCGTTA CAGTCGTAGA AAAGGGAAG GTAGGACCTC TCGTAAAGTTC TCGAAGGGTC ATGTCTCTGT AGTTACTTCTG

1901 ATTTATATAC AGGCGGTGGC AAGCAGAACC ACATCCAAAA TGGTCACTGT CGGCTCTAG GGCAGGCTA TCTTGTTCCTA GTCTGTGTTT TTTGTGCTCC  
TAAATATATG TCCGCCACCG TTCTGTCTTG TGTAGTTT ACCAGTCACA GCCCGAGATC CCGTCCGAT AGAACAAGGT CAGGACAAAG AAACACGAGG

2001 TGACCTTTGG GGCTGCCACT TCCCAGGACG ACCACTGCTC TCCCTCCCTC CCCCCCTC GATTTTCCCA ATAGCCAGTT CCCATGTGTC  
ACTGGAACC CCGACGGTGA AGGTCTCTGC TGGTGACGGA CGGTGTGAC AGGGGGGGAG GGGGGCCCC CTAAAAAGGT TATCGGTCAA GGTACACAG

2101 TTTTCTGCA ACGGTATCA AGCCATGGA ACCTTCAGAT AGGGCCCAAG AGCAGGATGA CACAACCTGT GGACAAGAGC TATATTAACT TGATCACTAG  
AAAAAGACGT TGCCATAAGT TCGGTTACCT TGGAAAGTCTA TCCCGGGTTC TCGTCTCTACT GTGTGGACA CCGTGTCTCG ATATAATTGA ACTAGTGATC

2201 TATGAGCTAA TATTAACATG ATCACCCTATG AAAGGCGCCT TTTAGTCTGA AATATAGGTA GACAGCGGG ATGGCAAGGT TGTGTTGAAC  
ATACTCGATT ATAATTGTAC TAGTGGGTAC TTTCCCGGGA CGTTCTCGAC AATCAGACT TTATATCCAT CTCTCGCCCC TACCGTTCCA ACGAACATTG

2301 TTCTGGTACA TGTGATGTC ACACACGCAT GGAGGCAAGC TCTAAATCAC TGCATGTTA CTGTAAAGCA TACTTTAAAA ATATTATTG TTTTGAAGAAG  
AAGACCATGT ACAACTTACG TGTGTGCGTA CCTCCGTTCG AGATTTAGTG ACGTGACAAT GACATTTCGT ATGAAATTTT TATAAATAAC AAAACTTTTC

FIG.-2B

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2401 CATTTTCTAG TCCTCCCTCT CTTGGTGGAG CTGTAAACAA GATGGCATGT TGTGAAGGTT CAAGATGATT TTTTTTTAAA TCGCAGAAAC ATTTAGACAC
    GTAAAAGATC AGAAGGGAGA GAACCACTC GACATTTGTT CTACCGTACA ACACTTCCAA GTTCTACTAA AAAAAAATTT AGCGTCTTTG TAAATCTGTG

2501 CTAAGAACTA AAACTTATAA AAGGGATCTT TGAATTTGCC TGTAAACATG GATTAATGTT TACACTTACA GCTGATGATT GGACGGTGT TTTATGTTAGG
    GATTCCTTGAT TTTGAATATT TTCCCTAGAA ACTTAAACGG ACAATTGTAC CTAATTACAA ATGTGAATGT CGACTACTAA CCTGCCACAA AATACAATCC

2601 GAAATGCCCT GTTAACGAAC TTCATGAAGC AGATGTAATT AAAGGTTGAT GTGAGCCCAAT CTAGAAGGTT GAACAGTGT TTCAAAGAAC GGAGAGACTT
    CTTTACGGAA CAATTGCTTG AAGTACTTCG TCTACATTA TTTCCAACTA CACTCGGTTA GATCTTCCAA CTGTGCACAA AGTTTCTTTG CCTCTCTGAA

2701 ACATTTTAGA CCAATCTTTA TACATTTTGC TGAGCTAGAA AGGAGATAAA GATTATTTAT TTTTGTTCAT ATCTTGTAAT TTTCTATTAA AATCATTTTA
    TGTAATAATCT GGTTAGAAAT ATGTAAACG ACTCGATCTT TCCTCTATTT CTAATAAATA AAAACAAGTA TAGAACATGA AAAGATAAAT TTAGTAAAT

2801 TGAAGMMMAA AAAAAAAAAA AA
    ACTTWWKKTT TTTTTTTTTT TT
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FIG.\_2C

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CCCACGCGTCCGCATATGTCTCCTTTGTGAGGATCAACAGCTCGCTGGCAGTGGCGGCTT  
ACGAGGATGGGATCCTTAACATTTGGGACCTGAGAACCGGAAGGTTCCCTATCTTTCGTT  
TTGAGCATGACGCAAGAATACAAGCCCTTGCGCTGAGCCAAGAAAAGCCCATTTGTTGCCA  
CGGCTTCTGCTTTTGACGTTGTGATGTTGTACCCCAACGAGGAGGGGCATTGGCATGTGG  
CCTCGGAGTTTGAAGTTCAGAAGCTGGTTGACTACCTTGAAATAGTTCCGAATACTGGGA  
GGTACCCTGTGGCAATAGCCACAGCCGGGGATCTGGTGTACCTGCTGAAGCCGACGACT  
CAGCCAGAACCCTTCATTATGTCAATGGCCAGCCTGCCACATGTCTGGATGTCTCAGCCA  
GCCAGGTTGCCTTTGGAGTGAAGAGTCTAGGATGGGTGTATGAAGGAAACAAGATCCTGG  
TGTACAGCCTGGAAGCAGAGCGCTGCCTCTCGAAGCTGGGCAATGCACTTGGAGACTTTA  
CCTGTGTCAACATCCGGGATAGCCCTCCCAACCTCATGGTCAGCGGCAACATGGACAGGA  
GAGTGAGGATTCATGACCTCCGCAGCGATAAGATCGCCCTGTCGCTGTCTGCCCATCAGC  
TGGGGGTGTCCGCAATTCCAAATGGATAACTGGAAAGGTTGTCAGTGGAGGCCAGGAGGG  
GTGGTGT

**FIG. 3**

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1 CCCACGGCTC CGCATATGTC TCCTTTTGTA GGATCAACAG CTCGCTGGCA GTGGCGGCTT ACAGGATGG GATCCTTAAC ATTGGGACC TGAGAACCGG  
GGGTGCGCAG GCGTATACAG AGGAACACT CCTAGTTGTC GAGCGACCGT CACCGCGAA TGCTCCTACC CTAGGAATTG TAAACCCCTGG ACTCTTGGCC

101 AAGGTTCCCT ATCTTTGCTT TTGAGCATGA CGCAAGAATA CAAGCCCTTG CGCTGAGCCA AGAAAAGCCC ATTGTTGCCA CGGCTTCTGC TTTTGACGTT  
TTCCAAGGGA TAGAAAGCAA AACTCGTACT GCGTTCTTAT GTTCGGGAAC GCGACTCGGT TCTTTTGGG TAACAACGGT GCCGAAGACG AAAACTGCAA

201 GTGATGTTGT ACCCCAAACA GAGGGGCAT TGGCATGTGG CCTCGAGTT TGAAGTTTCA AAGTGTTG AATACCTTGA AATAGTTCCG AATACTGGGA  
CACTACAACA TGGGGTTGCT CCTCCCGTA ACCGTACACC GGAGCTCAA ACTTCAAGTC TTGACCAAC TGATGGAAC TTAATCAAGGC TTATGACCTT

301 GGTACCTGT GGAATAGCC ACAGCCGGG ATCTGTGTA CCTGCTGAAG GCCGACGACT CAGCCAGAAC CCTTCATTAT GTCAATGGCC AGCCTGCCAC  
CCATGGGACA CCGTTATCGG TGTCCGCCCC TAGACCACAT GGACGACTTC CGGCTGCTGA GTCGGTCTTG GGAAGTAATA CAGTTACCGG TCGGACGGTG

401 ATGCTCGGAT GTCTCAGCA GCCAGGTTGC CTTTGGAGTG AAGAGTCTAG GATGGGTGTA TGAAGGAAC AAGATCCTGG TGTACAGCCT GGAAGCAGAG  
TACAGACCTA CAGAGTCGGT CGGTCCAACG GAAACCTCAC TTCTCAGATC CTACCACAT ACTTCCTTTG TTCTAGGACC ACATGTGCGA CCTTCGTCTC

501 CGCTGCCTCT CGAAGCTGGG CAATGCACTT GGAGACTTTA CCTGTGTCAA CATCGGGAT AGCCTCCCA ACCTCATGGT CAGCGCAAC ATGGACAGGA  
GCGACGGAGA GCTTCGACCC GTTACGTGAA CCTCTGAAAT GGACACAGTT GTAGGCCCTA TCGGAGGGT TGGAGTACCA GTCGCCGTTG TACCTGTCTT

601 GAGTGAGGAT CCATGACCTC CGCAGCGATA AGATCGCCCT GTCGTGTCTT GCCATCAGC TGGGGTGTG CGCAGTCCAG ATGATGACT GGAAGTTGT  
CTCACTCCTA GGTACTGGAG GCGTCGCTAT TCTAGCGGGA CAGCGACAGA CCGGTAGTGC ACCCCACAG GCGTCAGGTC TACCTACTGA CCTTCCAAACA

701 CAGTGGAGG GAGGAGGGG TGGTGTCTGT GTGGGATTAC CGCATGAACC AGAAGTGTG GGAAGTGCAC TCCAGGCACC CTGTGCGCTA TCTCTCTCTC  
GTCACCTCCG CTCCTCCCCG ACCACAGACA CACCCTAATG GCGTACTTGG TCTTCGACAC CCTTCACGTG AGGTCCGTGG GACACGCGAT AGAGAGGAAG

801 AATAGCCACA GCCTCATCAC TGCCAAACGT CCCTACGAGA AGGTGCTGG AAACCTCCGAC CTCGACAACT TTGCCTGTCA CAGGAGACAT CGTGGCCTGA  
TTATCGGTGT CGGAGTAGTG ACGGTTGCAC GGGATGCTCT TCCACGACGC TTTGAGGCTG GAGCTGTGTA AACGGACAGT GTCCTCTGTA GCACCGGACT

901 TCCATGCCTA TGAATTTGCT GTGGACCAGC TGGCCTTTCA GAGCCGCCCTT CCTGTCTGCC GCTTACCCCG TGACATCATG GCTGGATACA GCTATGACCT  
AGGTACGGAT ACTTAAACGA CACCTGTGCG ACCGGAAGT CTCGGGGAA GGACAGACGG CGAATGGGGC ACTGTAGTAC CGACCTATGT CGATACTGGA

1001 CGCACTGTCT TTCCCCCATG ACAGTATTTA GGGTGTCAAC TCATGTAGAC GTGGAAGGG CAGTTTACA AATGTAGAG TTGAGAGAG GCTCTGCAGC  
GCGTGACAGA AAGGGGTAC TGTATATAAT CCCACAGTGG AGTACATCTG CACCTTTCCC GTCAAAATGT TTACAATCTC AACCTCTCTC CGAGACGTCG

1101 ACATGGTGG AGTTTGGGA CAGTGTCTGT TATGACTGTG GCCACACAGC CCTGTGCCCC TGTACAGAAC CAGACTCCAT TGTGCTCTT CTCCTCTCTC  
TGTACCACCC TCAAAACCCCT GTCACAGGAC ATACTGACAC CCGTGTGTG GACACAACGG ACATGTCTTG GTCTGAGGTA ACGACGAAA GAGGAGGAG

FIG. 4A

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1201 TCCTCCTCCT CAGGCTTTGG TAGGACTGGC TGATGACTCA GAGTTAACTT TTCCAGGGGT GGCTCCTCCC CCTCAGCCTA TGGCAGCAGT GACACCCCCC
    AGGAGGAGGA GTCCGAAACC ATCCTGACCG ACTACTGAGT CTCAATTGGA AAGGTCCCCA CCGAGGAGGG GGAGTCGGAT ACCGTCTGTC CTGTGGGGGG
1301 CTCGTTCAT AGGCCAGGA CACAGGCGCT TCACTTGAC TGCTCTCTGG GTGTGGTGTCT GAGGTTGGAA CCAGAAATCTC ACACGCATAG GCAAGCGTCA
    GAGCAAGGTA TCCGGTCCCT GTGTCCCGA AGTGAACGTG ACAGAGGACC CACACCACGA CTCCCACCTT GGTCTTAGAG TGTGCGTATC CGTTCGCAGT
1401 GCCTCCAAGC TGCTTCCCCA GCTGTGAGC TCCCTCAGCC TCCCTCAGCTG TCTCTCCAG GCACCCCTCCA GTGCAGCCCC TCCTCTGGGA TTCACACCCGT TGATAATTAT
    CCGAGGTTCC AGCGAGGGGT CGACAGTCCG AGGGGTGCGC AGAGGAGGTC CGTGGGAGGT CACGTCCGGG AGGAGACCCCT AAGTGTGGCA ACTATTAAATA
1501 AGGGCCACCT TACCTGTAGG AGCTGTTCTG TCCTGTACAT GTGCTATGAA GGAGACAGCC ATCCTTCTCTG CAGAGGGAAA GGGTCATTGC ACAGGGATAG
    TCCCGGTGGA ATGGACATCC TCGACAAGAC AGGACATGTA CAGCATACTT CCTCTGTCTGG TAGGAAGGAC GTCTCCCTTT CCCAGTAAACG TGTCCCTATC
1601 GGTCAAGTCT CAAGCCTAGC CGGTGGTGTG TCTTCTCTGAC AAACGCAGCC ATAGCTCACC CACTCTGCCCT TCAGAGTCTC ATGGACAAAT CCACACATAG
    CCAGTCAGAG GTTCGGATCG GCCACCACAG AGAAGGACTG TTTGCGTCCG TATCGAGTGG GTGAGACCGA AGTCTCACAG TACCTGTTTA GGTGTGTATC
1701 TGGCCAGGAG ACCCAGTCAG AGCTCTTTCAG AATCCCCACA GACCAGGCAC CTAACACACC TGCACAGAGG CCACCAGGTC TCAGGAGACA AAGTTCCTCT
    ACCGTCCTC TGGGTCAGTC TCGAGAAGTC TTAGGGGTGT CTGGTCCGTG GATTGTGTGG ACGTGTCTCC GGTGTCTCCAG AGTCTCTGT TTCAAGGAGA
1801 CCCAGGGAAT ACCAGTCAA AAAACAAGTG GGTGGGAAA CTCCACATTG GGTCTGCCGA GAGCAAGAAA AAAGAGGGGG GTGGGGGAGC TCCATGGGGT
    GGTTCCTTTA TGTTCGAGTT TTTTGTTCAC CCGACCGTTT GAGGTGTAAC CCAGACGGCT CTGCTCTCTT TTTCTCCCCC CACCCCTCG AGGTACCCCA
1901 GGATCCCAAG CTGGCAGCAG GAAGGTGCTG GAAGGCCTGA GAGGTGTGC AGTGCCCTCC CCGAGCCCTG GTGGTCTCTT CCTGTGTCTT GGGATGGAGT
    CCTAGGGTCC GACCGTCGTC CTTCACAGC CTTCGCGACT CTCCACACAG TCACGGGAGG GGTCTGGGAC CACCAGAGGA GGCACACAGA CCCTACCTCA
2001 CTAGTGGGTT TGTGGCATGA TCTCAGATCT TGGCATTGAG GCCTCTCCCC ATGCACAAAT GCCCAGGGGA GGTACCTCC CTCTTGTCTG GCTGGCGCCC
    GATCACCCAA ACACCGTACT AGAGTCTAGA ACCGTAACAT CCGAGAGGGG TACGTGTTCA CCGGTCCCCC CGAGTGGAGG GAGAACGACC CGACCGCGGG
2101 CCTGCTGGCC TGGTCTTGCT GTGTCTCTAC TCGAGCATTC CCAGTCTTAA GCTGTCCACT GGAGACATTT CTGTACAGGA AATTGGCTGT GCGGTCTAGT
    GGACGACCCG ACCAGAACGA CACAGGAGTG AGCTCGTAAG GGTCAAGATT CGACAGGTGA CCTCTGTAAC GACAGTCTCT TTAACCGACA CGCCAGTCTGA
2201 CCTTTCTGGG CTTTCGAGCC ATGAAAGGCC ACTGAAGAGC AGAGGTGACT AGAGTAGTTT CAAGCATACA TGCCCTTCTA GCCCCCAATC CCTGCCCCCT
    GGAAGAGACC GAAGCGTCGG TACTTTTCCG TGACTTCTCG TCTCCACTGA TCTCATCAA GTTCGTATGT ACGGGAAGAT CGGGGGTTAG GGACGGGGGA
2301 ACCCCACAG AGCATCTGTC CTCGTGGCT CTTGCCACTG CACTGTCTCC CAGGTTGGG GACAGGCTGG CTCCCTGTGC TGCCTCTGAA GCCAGAAGAC
    TGGGGGTGTC TCGTAGACAG GAGCGACCGA GAGCGGTGAC GTGGACGAGG GTCCACCCCT CTGTCCGACC GAGGAGACAG ACAGGACTT CCGTCTCTG
2401 ACCAGGACAC AGCCTGGGA GCCAGGGGTG GTACACATC TGCAGCTTGC CTTTGTGCTT AAGCGGCCAC TTCTGCTCTG TTATTAAAGG TTCTACACTG
    TGGTCTGTG TCGGACCTCT CCGTCCCCAC CAGTGTGTAG ACGTGAACG GAAACCGAA TTCGCCGGTG AAGACGAGAC AATAATTTC AACATGTGAC
2501 AAAAAAAAAA AAAAAAAAAA AAAAAA
    TTTTTTTTTT TTTTTTTTTT TTTTTT
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FIG. 4B



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1  CTCCTCAACAGC GCAGGGCAGA GCGGCTGGCG CCGCCGGAGC GCGAGACCAC GACCTCCCT GCGCCGCTTT GTCTACTGGC CGTGCGGCCC GGAACCGCCA
   GAGGTGTGCG CGTCCCGTCT CGCCGACCGC GCGGCCCTCG CGCTCGGTG CTGGGAGGA CCGCGGAAA CAGATGACCG GCACGCCGGG CCTTGGCGGT

101 CTCCTCCAGG CCGGGACGC GCCCGCAGT GTCGTGACA GCTCTCCCT ACCGCAACC TCCGGGGCG AGGGCGGTG GGGCCGGGCC CTGCTAGCCC
   GAGAGTCCC GGGCCCTGCG CCGGCTCGA CAGCCACTGT CGAGGAGGA TGGCGTTGG AGGCCCGCC TCCCCGCCAG CCGGCCCGG GACGATQGGG

201 GCGACCGCAA GCCCGGCTC GCGGATCGAT GCCCCGCGAG CAGGGGACC CCGGTTCCC CGACCGCTGC GAGGCGCTC CGGTGCGGCC GCGTGGGAG
   CGCTGGCGTT CCGGCGGAG CGCCTAGCTA CCGGGCGTGC GTCCCCCTGG GGCGCAAGG GCTGGCGACG CTCGCGGAG GCACGCGG CCGACGCCCTC
   M P P Q Q G D P A F P D R C E A P P V P P R R E

301 CGCGGTGAC GCGGGGACG CCGGCTGGG GAGCGGGGG GCGGGGGCG TCGGGGGGT GCGAGGGG GCGCGTCAA GTGCTGCTG GTCGGCGACG
   GCGCCACTG CGCCCGCTGC GCCCGGACCC CTCGGGCCCG CCGGCCCGC CGGCTCCCG CGCGCAGTT CAGCAGCAG CAGCGCTGC
   25 R G G R G G R G P G E P G G R A G G A E G R G V K C V L V G D G

401 GCGCGTGGG CAAGACGAGC CTGTTGGTGA GTTACACCAC CAACGGCTAC CCCACCGAGT ACATCCCTAC TGCCTTCGAC AACTTCTCG CGTGTGTTGTC
   CGCGCACCC GTTCTGCTCG GACCACCACT CAATGTGGTG GTTGCCGATG GGTGGCTCA TGTAGGATG ACGAAGCTG TTGAAGAGG GCCACCACAG
   59 A V G K T S L V V S Y T T N G Y P T E Y I P T A F D N F S A V V S

501 TGTGGATGG CCGCCCGTGA GACTCCAACT CTGTGACACT GCCGACAGG ATGAATTGA CAAGCTGAGG CCTCTCTGCT ACACCAACAC AGACATCTTC
   ACACCTACCC GCCCGGCACT CTGAGGTTGA GACACTGTGA CCGCTGTGTC TACTTAACT GTTCGACTCC GGAGAGACGA TGTGTTGTTG TCTGTAGAAG
   92 V D G R P V R L Q L C D T A G Q D E F D K L R P L C Y T N T D I F

601 CTGCTCTGCT TCAGTGTGCT GAGCCCTCA TCCTTCCAGA ACGTCAGTGA GAAATGGGT CCGGAGATTC GATGCCACTG TCCCAAAGCC CCCATCATCC
   GACGAGACGA AGTCACAGCA CTCGGGGAGT AGGAAGTCT TGCAGTCACT CTTTACCCAC GGCCTCTAAG CTACGGTGAC AGGTTTCGG GGGTAGTAGG
   125 L L C F S V V S P S S F Q N V S E K W V P E I R C H C P K A P I I L

701 TAGTTGGAAC GCAGTCGGAT CTCAGAGAAG ATGTCAAAGT CCTCATTTGAG TTGGACAAAT GCAAGAAAA GCCAGTGCCT GAAGAGCGG CTAAGCTGTG
   ATCAACCTTG CGTCAGCCTA GAGTCTCTTC TACAGTTTCA GGAGTAACTC AACCTGTTTA CGTTCTTTT CGGTACCGGA CTTTCCGCC GATTCGACAC
   159 V G T Q S D L R E D V K V L I E L D K C K E K P V P E E A A K L C

801 CGCGGAGGAA ATCAAAGCG CCTCCTACAT CGAGTGTCTA GCCTTCACTC AAAAAACCT CAAGAGGTC TTTGATGACG CCACTGTCG TGGCATTCAA
   GCGGCTCCTT TAGTTTCGGC GGAGGATGTA GCTCACAAGT CGGAAGTGTG TTTTCTTGA GTTCTCCAG AAACCTAGTC GGTACGAGC ACCGTAAGTT
   192 A E E I K A A S Y I E C S A L T Q K N L K E V F D A A I V A G I Q
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FIG.\_5A

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901 TACTCGGACA CTCAGACA GCGAAGAAG TCATAAAGCA GGACTCCAGA TAAATGAAA AACCTCTCCA AGTCCTGGTG GAAGAAGTAC TGCTGTTTCG
    ATGAGCCTGT GAGTCGTTGT CGGTTTCTTC AGATTTCGT CCTGAGGTCT ATTTACTTTT TTGGAGAGGT TCAGGACCAC CTTCTTCATG ACGACAAAAGC
225 Y S D T Q Q Q P K K S K S R T P D K M K N L S K S W K K Y C C F V
1001 TATGATGCTG GCAAGACACC CAGAAAGGCT ATTTTCAGAT GAAATCGATA TTAGAAGCTA TATAGCTGA AACAACTCCT TTTACTGCGT AGAACCTATA
    ATACTACGAC CGTTCTGTGG GTCTTTCCGA TAAAGTCTA CTTTAGCTAT AATCTTCGAT ATAATCGACT TTGTTGAGGA AAATGACGCA TCCTGGATAT
259 0
1101 TCGAGAGTGT GTGTATATGT ATTATAGGAG GAGCTCTCAA TTTTATGTAT TCTTTCTGCC TTAAATTTTC TTGTTTGTGT GAGCTTAGGG ATGAGATACT
    AGCTCTACA CACATATACA TAATATCCTC CTCGAGAGTT AAAATACATA AGAAAGACGG AAATTAAAAG AACAAACAAA CTCGAATCCC TACTCTATGA
1201 TATGCAAGAT ATTTTGAAG TAAATTAAAC ATTTTTCACA TCTCTGAAA TTTAGAGTTC TAGACCTCTG GTTAATTTAT ATCTAATATG AAGAAGACAC
    ATACGTCTTA TAAAAACTTC ATTTAATTG TAAAAAGTGT AGAGACCTTT AAATCTCAAG ATCTGGAGAC CAATTAAATA TAGATTATAC TTCTTCTGTG
1301 CTCCTAATCTG GATGTTAAGA ATGAAGTTCT GCTACATTAT AATGTACAGA AGAGCAAAAG GGAGGAACAC TATGTTTAA CCTCTCTTGA TTAAGGGCTA
    GAGATTAGAC CTACAATTCT TACTTCAAGA CGATGTAATA TTACATGTCT TCTCGTTTTT CCTCCTTGTG ATACCAATTG GGAGAGAACT AATTCCCGAT
1401 CTCTAATGCAC AGTGCATTAT GTACACAGGT CAACCATGGT AACAAATAGT CTTAGCTTTG AAACCTCCATG CAAACCATGC CTTTTTTTTA AGGAGCAAAA
    GAATTACGTG TCACGTAATA CATGTGTCCA GTTGGTACCA TTGTTATCAA GAATCGAAC TTTGAGGTAC GTTTGGTACG GAAAAAAAT TCCTCGTTTTT
1501 ATCTGAGAAA AAAAGTGAGA GACCTCTGCC TACAAAACCTT CAAACCACTC ACTTTTGTCA ATTGCTAATA CCCAGTTACT TATGATTTAA AACAACCCAA
    TAGACTCTTT TTTTCACTCT CTGGAGACGG ATGTTTGTAA GTTTGGTCTG TGAAAAACAGT TAACGATTAT GGGTCAATGA ATACTAAAT TTTGTTGGTT
1601 CAGAAAACAT CCCACAGACT GTATGGCACT CTGTAGTCAA AAAAGGAAAC TTTCCTTATTG GGACTTTTTCT TTCTTAGTCC AGTTGTGTG ACACATATGA
    GTCTTTTGTG GGGTGTCTGA CATACCGTGA GACATCAGTT TTTTCTCTTG AAAGAATAAC CCTGAAAAGA AAGAATCAGG TCAACACAAC TGTGTATACT
1701 ACACAGACAA AGTCTATGC GGAGGAAGC AAGTGTGGT CAGTAGTTTC ATGTTTTAGG GAGTGGTTCC TGTGGAGATC AGAAAGTGAC ATTTGCTTTC
    TGTGTCTGTT TCACGATACG CCTCCTTTTC TACCAACCA GTCATCAAAG TACAAAATCC CTCACCAAGG ACACCTCTAG TCTTTCACCTG TAAACGAAAG
1801 GGTAATGTAA TACATGCACC AAACGCTC AATCCTAGGT AACGAGGCA ACAGGGGCA CTTGTCTGGA TTGTTTTTAA ACCTCCATAC TCAAGCTGTC
    CCATGACATT ATGTACGTGG TTTTGACGGAG TTAGGATCCA TTGCTCCCGT TGTCCCTCGT GGACAGACCT AACAAAAAT TGGAGGTATG AGTTCCGACAG
1901 TCTTCGGCAG GGAGTGAAT ACTCTTGAA GGCCAACAGC AAGTGTGTGT GGGACACAAC ACAGATAAT TTTTCTTAA TCGACCAAGA TGTACTTCTC
    AGAGCCGTC CCTCCACTTA TGAGAACTTT CCGGTGTCTG TTCACAAAAC CCTGTGTG TGTCTATTAA AAAAGAATTC AGCTGGTCT ACATGAAGAG
2001 TGTGTGCACA CCCATGCACA CTCATGCACA GGTCTGTATG GGTGTATTG CTGTGATTC AGACTTTCAC ACCATTATG GGGAAAAGCG
    ACACACGTGT GGGTACGTGT GATACGTGT GTCTATGTAT CCAGACATAC CGACATAAAC GACAACTAAG TCTGAAAAGTG TGTAAATTAC CCCTTTTCGC

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FIG..5B

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2101 TGGCCACAAA AACAGATGCT AGGAAGCTTG GCTTCCTCTT CTGTGTTGACC CTTTTTTGGAA CCAACATCTT TTTTATTATA TTCAGAGTAT GTTTTAAAGT  
ACCGGTGTTT TTGTCTACGA TCCTTCGAAC CGAAGGAGAA GAACAACCTG GAAAAAACCT GGTGTAGAA AAAATAATAT AAGTCTCATA CAAAAATTCA

2201 GTATCTTAAT ATATACATTT TTTAGGACAT CTTAAATCTA AACAAAAAT AAAATGAACA TCTCTGAAA CCTGTAAAA CAACCAAGTTA AAGCCACAGA  
CATAGAATTA TATATGTAAA AATCCTGTGA GAATTTAGAT TTGTTTTTTA TTTTACTTGT AGAGAACTTT GGACAAATTT GTTGTCAAT TTCGGTGTCT

2301 TGGCTTTCAG GGCAGTAGCA GCAGAGGCCA GTGACTCTG AGGACTCCTG AGGGCGGGG CGTGTAGCCA GCCAGGTGCA TGCCGGGACC ATGGCCCCCA  
ACCGAAAGTC CCGTCATCGT CGTCTCCGT CACCTGAGAC TCCTGAGGAC TCCCGGCCCC GCACATCGGT CGGTCCACGT ACGGCCCTGG TACCGGGGGT

2401 TACTTGGCTG CTTCCTGTGA CAGTGAATA CATCTTCAA GGTGGCAGCT GTTAGGGCTG AATCTTCTGG AGAAAAAGGT GCCATCTCAG GAGAAATAGCT  
ATGAACCGAC GAAGGACACT GTCACTTTAT GTAGGAAGTT CCACCGTCGA CAATCCCGAC TTAGAAGACC TCTTTTCCCA CGGTAGAGTC CTCTTATCGA

2501 TTTACTCTGG TAGGAATGCT TCCGAGACAC CACAAGGCAG CCTGAACACT CAGTTGCAGG GTCGGGCTTG CGGTGGGTGA CCCAGAGCCA CCAAAGTCAC  
AAATGAGACC ATCCTTACGA AGGCTCTGTG GTGTTCCGTC GGACTTGTGA GTCAACGTCC CAGCCCGAAC GCCACCCACT GGGTCTCGGT GGTTCAGTG

2601 ATCCACAAC ATGAGGGAA ATCTGTAAAG CCAGTTAGAT AGAAGAGTTT TATTTTCTG TGGGTTTTGT GTTGTCTTTT TTATGTTAAA AAGAAATCCA  
TAGGTGTGA TTACTCCCTT TAGACATTTT GGTCAATCTA TCTTCTCAA ATAAAAAGAC ACCCAAAA CAACAGAAAA AATACAAATTT TTCTTTAGGT

2701 GTTTGTGTTT TTCTATAGAA AAAGTAAAG ATCAGGTTAT ACTTTAGGTT AGGGTTCTA TTTATTCTCT TTAGTAAATA AAATTAACAA ATTTCTTTGT  
CAAAACAAA AAGATATCTT TTTCATTTTC TAGTCCAATA TGAAATCCAA TCCCAAGAT AAATAAGGAC AATCATTTTAT TTAAATGTTT TAAAGAAAA

2801 TTAACAAAAG ATTAATCTTT AAACCACTAA AATACATAGA CTGATTGATT ATTCAACACA TTGGAATTGA TGTCCGTCAT AGTTTCCCTGA AGCATTTAGT  
AATGTTTTT TAATTAGAAA TTTGGTGATT TTATGTATCT GACTAACTAA TAAAGTTGTGT AACCTTAACT ACAGCCAGTA TCAAAGGACT TCGTAAATCA

2901 TACAACCTGA AGGAATAAAA TGATTTGTGG AAATGCTTAA AATAGACCTA ACTGAATACA GTCTCATCTT GCCCGCCCTG GCTTACCTAT CTGTGGAAG  
ATGTTGGACT TCCTTATTTT ACTAAACACC TTACGGAATT TTATCTGGAT TGACTTATGT CAGAGTAGAA CGGCGCGGAC CGAATGGATA GACACCTTTC

3001 CTAGGCTTCC CAGGTGGCT CTGCCTGTCT GGTGCTTGA GGTGTGGAG GGAAGATGAG TTATTTAACT GGTAAAGCGAT TTGAAACACT ATTTTATAT  
GATCCGAAG GTCCACCCGA GACGGACAGA CCACGGACCT CCACACCTC TCTATCTTGT GTTTTGAAC TTCTTCAAAA TACGCACACT GTCACATACC CCGACGTCAA

3101 TAAAGTAAAT GGCATGGAGT ATAGTGCAA TTCATTTTTA AGATAGAACA CAAAACCTGA AAGAAGTTTT ATGCGTGTGA CAGTGTATGG GGCTGCAGTT  
ATTTCAATTA CCGTACCTCA TATCACGTTT AAGTAAAAAT TCTATCTTGT GTTTTGAAC TTCTTCAAAA TACGCACACT GTCACATACC CCGACGTCAA

3201 GGTCCTCCCTG GAGGGACTT CCACACCTCC TGCCCTTAGG CCATGGGTGG AAAGTGCTCA GTGAAGTACA CCTGTGTGGC CCAGTCTGA AAGCTTTATA  
CCAGAGGGAC CTCCCCCTGAA GGTGTGGAGG ACGGAAATCC GGTACCCACC TTTCACGAGT CACTTCATGT GGACACACCG GGTCAAGACT TTCGAAATAT

FIG. 5C

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3301 CAGTTGAATT TTAAGTGGG TTGATAACAC CTTGGACTGT TAGTGTAA AATCTAGTGG GTTGACCTTT AAATGCACAG TTTTAAAT ATATTGCTGC
GTCAACTTAA AATTCACCCC AACTATTGTG GAACCTGACA ATCACAATTT TTAGATCACC CAACCTGGAA TTTACGTGTC AAAAATTTTA TATAACGACG

3401 ATTTTATAGA ATAGTAAAG TACGATTATA CTTGAGATTT TCCTCCAATTT TTATTTCTTC GTGAACATAG AGTTTGGGC CGAAAATGTT TTTAAAGTAT
TAAAAATATCT TATCATTTCC ATGCTAATAT GAACTCTAAA AGGAGGTAAA AATAAAGAAG CACTTGATC TCAAAACCCG GCTTTTACAA AAATTTTATA

3501 GTGTTTGAGT TAAATATAAA GTTGGTTTAC TTCAAAGCTA AAAAATGTTT AAACCTGCAG CTTGGTATG CAGAGAAGAT TTTATAAGAA TTTTGCTTTA
CACAAACTCA ATTTATATTT CAACCAAGTG AAGTTTCGAT TTTTAAACAA TTTGAACGTC GAACCATAAC GTCTCTTCTA AAATATTCTT AAAACGAAAT

3601 GAGAATGCCA CTTTGGCTGA ACTACAAGTG TAGGCCACCA TTATAATTTA TAAATCCAGC ATACTTCAAA ACTGTTTGT ATCTCTTGT ACCATGATG
CTCTTACGGT GAAACCGACT TGATGTTTAC ATCCGGTGGT AATATTAAAT ATTTAGGTG TATGAAGTTT TGACAAACAA TAGAGAACAA TGGTACATAC

3701 TATAAATGGA CCTTTTATAA CCTTGTCTC TGCTTGACAG ACTCAAGAGA AACTACCCAG GTATTACACA AGCCAAAATG GGAGCAAGGC CTTCCTCTCCA
ATATTTACCT GGAATAATTT GGAACAAGAG ACGAACTGTC TGAGTTCTCT TGATGGGTC CATAATGTGT TCGGTTTTTAC CCTCGTTCCG GAAGAGAGGT

3801 GACTATCGTA ACCTGGTGCC TTACCAAGTT GTGCTTTTCT GTTTTCAAGT GTAAATGATG TTGAGCAGAA TGTGTACTTT GAAAATGCTA TAAGTGAGAT
CTGATAGCAT TGGACCACCG AATGGTTCAA CACGAAAAGA CAAAAGTTCA CATTTACTAC AACTCGTCTT ACAACATGAA CTTTTTACGAT ATTCACCTCTA

3901 GGTATGAAAT AAATCTTGAC TTATGAATAT AAAAAAAAAA AAAAAAAAAA AAAAAAAAAA
CCATACTTTA TTAAAGACTG AATACTTATA TTTTTTTTTT TTTTTTTTTT TTTTTTTTTT
```

**FIG.\_5D**

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mouse.cl.65	1	M	A	P	Q	Q	G	R	P	A	L	P	A	R	C	E	P	P	A	A	P	P	V	P	P	R	R	R	G	G	R	G	A	R	G	P	G	V	S	G	G	R	A	G	G	A	E	G			
human.cl.65	1	M	P	P	Q	Q	G	D	P	A	F	P	D	R	C	E	.	.	.	A	P	P	V	P	P	R	R	R	G	G	R	G	A	R	G	P	G	E	P	G	G	R	A	G	G	A	E	G			
mouse.cl.65	51	R	G	V	K	C	V	L	V	G	D	G	A	V	G	K	T	S	L	V	V	S	T	T	N	G	Y	P	T	E	Y	I	P	T	A	F	D	N	F	S	A	V	S	V	D	G	R	P	V		
human.cl.65	48	R	G	V	K	C	V	L	V	G	D	G	A	V	G	K	T	S	L	V	V	S	T	T	N	G	Y	P	T	E	Y	I	P	T	A	F	D	N	F	S	A	V	S	V	D	G	R	P	V		
mouse.cl.65	101	R	L	Q	L	C	D	T	A	G	Q	D	E	F	D	K	L	R	P	L	C	Y	T	N	T	D	I	F	L	L	C	F	S	V	V	S	P	T	S	F	Q	N	V	G	E	K	W	V	P	E	I
human.cl.65	98	R	L	Q	L	C	D	T	A	G	Q	D	E	F	D	K	L	R	P	L	C	Y	T	N	T	D	I	F	L	L	C	F	S	V	V	S	P	S	S	F	Q	N	V	S	E	K	W	V	P	E	I
mouse.cl.65	151	R	R	H	C	P	K	A	P	I	L	V	G	T	Q	S	D	L	R	E	D	V	K	V	L	I	E	L	D	K	C	K	E	K	P	V	P	E	E	A	A	K	L	C	A	E	E	V	K	A	
human.cl.65	148	R	R	H	C	P	K	A	P	I	L	V	G	T	Q	S	D	L	R	E	D	V	K	V	L	I	E	L	D	K	C	K	E	K	P	V	P	E	E	A	A	K	L	C	A	E	E	I	K	A	
mouse.cl.65	201	V	S	I	E	C	S	A	L	T	Q	K	N	L	K	E	V	F	D	A	A	I	V	A	G	I	Q	H	S	D	S	Q	L	Q	P	K	K	S	K	S	R	T	P	D	K	V	R	D	L	S	
human.cl.65	198	A	S	I	E	C	S	A	L	T	Q	K	N	L	K	E	V	F	D	A	A	I	V	A	G	I	Q	Y	S	D	T	Q	Q	P	K	K	S	K	S	R	T	P	D	K	M	K	N	L	S		
mouse.cl.65	251	K	S	W	W	R	K	Y	C	C	L	A																																							
human.cl.65	248	K	S	W	W	K	K	Y	C	C	F	V																																							

FIG.-6

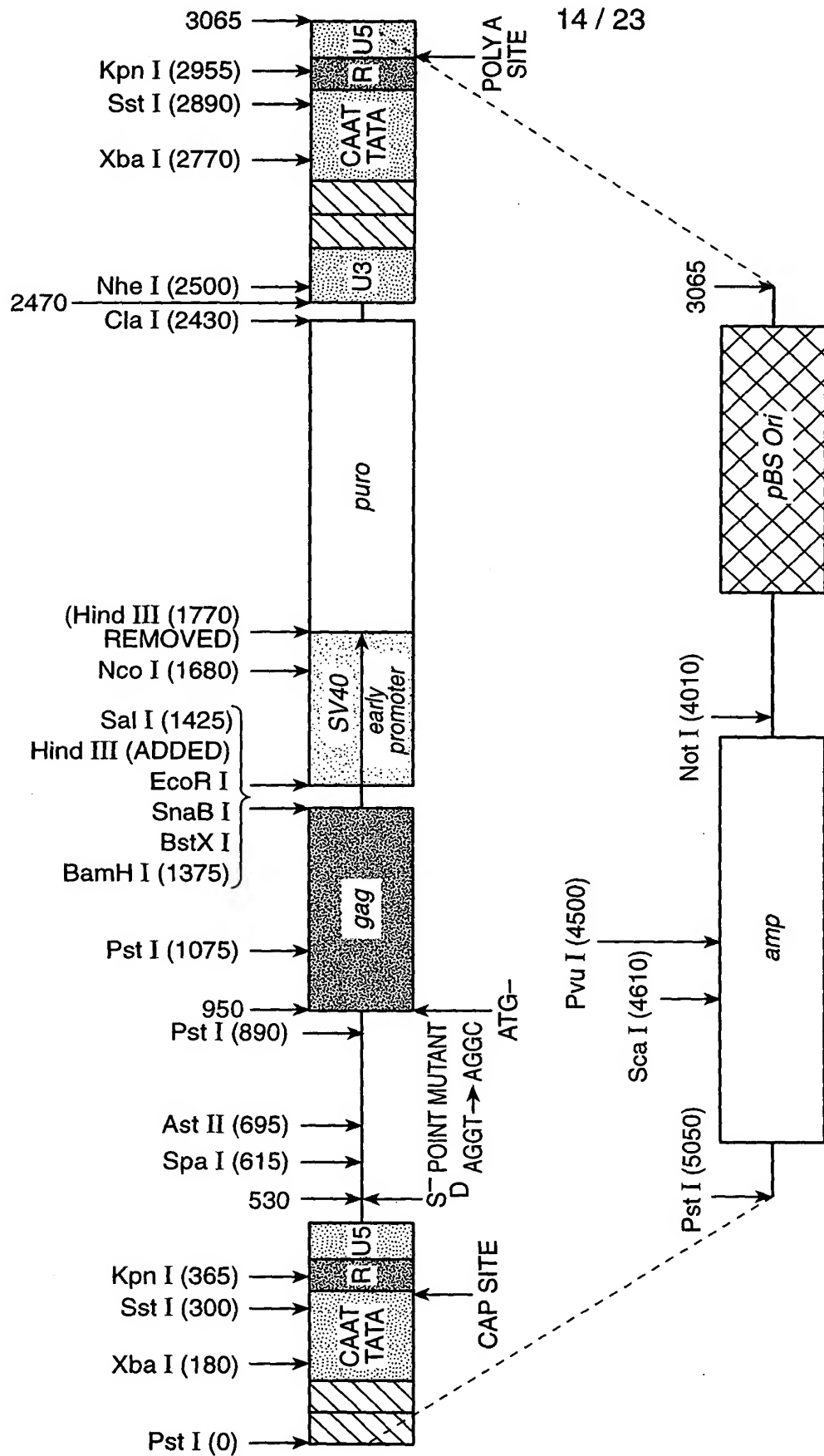


FIG. 7

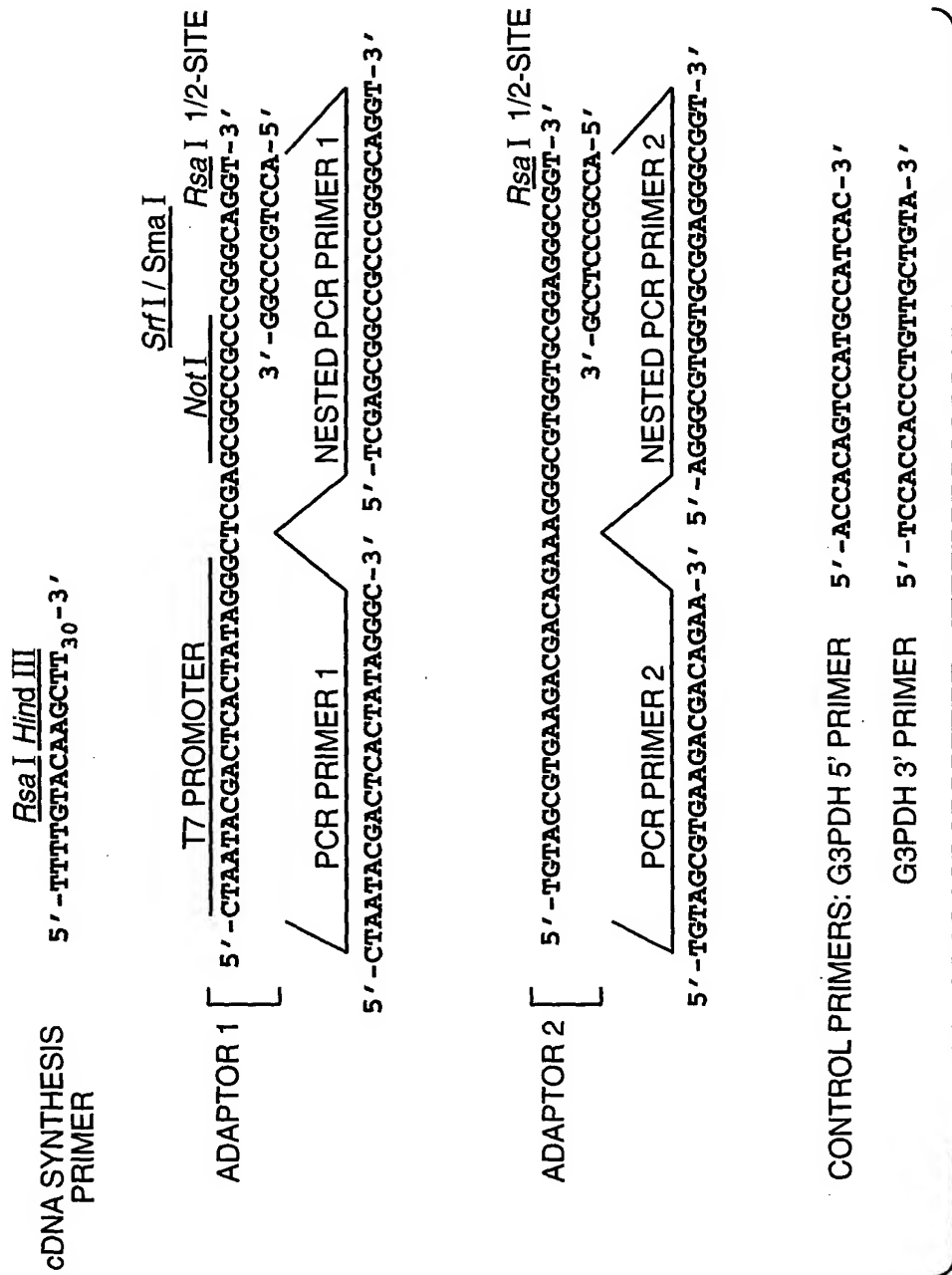


FIG. 8

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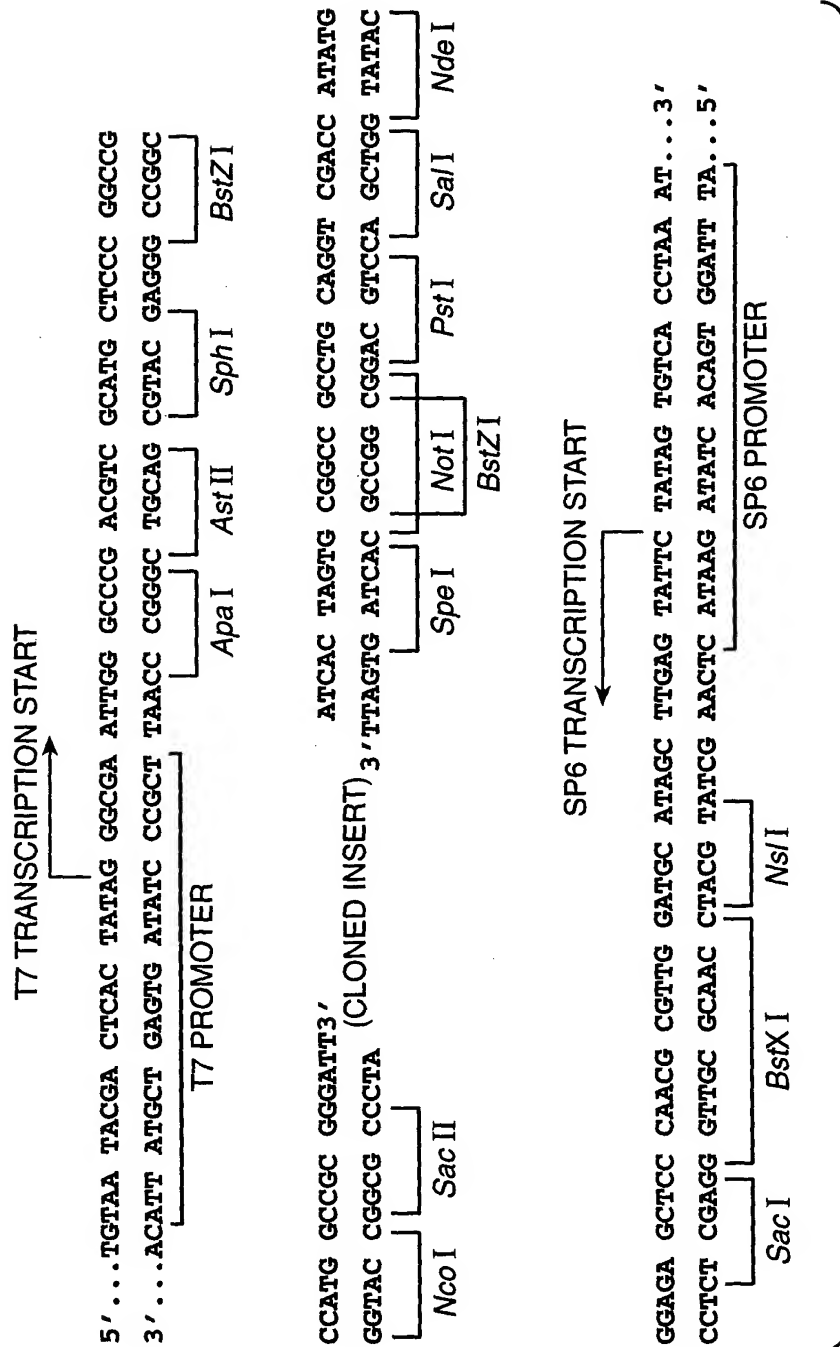


FIG.-9



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5' -CCCACGCGTCCGCGCGGTGGGCAAGACCAGCCTGGTGGTCAGCTACACCACTAACG  
GCTACCCCAACGAGTACATCCCTACGGCCTTCGACAACCTCTCGGC  
CGTGGTGTCTGTAGATGGGCGGCCTGTGAGACTCCAGCTCTGTGACACTGCAGGACAGG  
ATGAGTTTGACAAGCTGAGGCCCTCTGCTACACCAACACAGACATCTTCCTGCTGTGCTTCA  
GCGTGGTGAGCCCCACATCCTTCCAGAACGTGGGCGAGAAGTGGGTTCAGAGATTTCGAC  
GTCACTGCCCAAAGGCCCCCATCATCCTGGTCGGGACACAGTCGGACCTCAGGGAGGAGGTCA  
AAGTGCTCATAGAAGCTGGCTTCTGCAGGGCATCTGTGTCCTGCTGTTAAAAGCAGGAGGAG  
GTGCTTGTCTGGGAGCTTTAAGTGTGCTGGGCTCATATCGTCCCCTTTGCAAGGAATTG  
GGCCACCTTGAGAGGCCATAGTTGATGGCTATGGGACACACACACACTTTTTCTTAAGTCC  
ACCAAAATGCCTGCCTGTACACACACACACACACACACACACACACACACACACACT  
GGCTGGTTTGCTGATGGAACCCTTAGACCACCCTCCCACCCCCACCCCTCCCCAAGCATGGC  
TGCAAGTGTGAGGGCACCACACCTTCCTCTTCTTGACATTTCTTTGAACAGACATCATTT  
TGTAGGATCTTAATTTATACATTTTTTTTCAGGTCATAAAATGTGGGATGAACATACT  
TTGAACCCCAAGTGCCTTCAGGGTCCATTGACTAGGGAGGCACTGTCTTAGGGGACAGGTAT  
GTGCAAGGCCTTACCCACCAGTGGCTTCTCGCTGCAGGTGATGTTTGTGGCACTTGTCTT  
TAAGGTGAGGGTCTTATGACCGACTGTTCTGAGACAGCCCTGTGTCAGGCAAGCTCTTT  
CACAGGGTGTAGGTATTTCCAAGACGCCATAGGAACCAGACAGTGAATCATAGCTATCAGT  
TTGCTGTGGGCAAGGAACCTCTTTTTGGCCACCTGGTAACAAAATTTTATGTCT  
GTAAATTTTTTCTTGCTATTTAAAAAATAATCAATCTTACGTTTTTCTGTAGGAAA  
AAAAAACAAGTAAAAGAACAGGCCATATTTTCAGGTCAAAGGCTTCTTCCTGCTG  
GTAAATGGGACTGAAGACTTTCTTACATCATTATTAAGGCTAATTGCTGAACCA  
CTAGAGTATATGAAGTGTGTTGTGAATGATATTAGCCATAGTCTCCTGAGGTGTTT  
CCTTGTGGCCTGAGTGGTAACATTGTTTTGCTTATGGAGATGCTGTAAGTACCTAGTGACTCAGC  
TTATCCTATTGTGCATGGCTGTCTGGAAAGCCAGCGTACAAGTGGGGCTTTGCCTGCCCTGTGTA  
CAGAGGGTGGGTGGGAAAGAGTGAATTATTTAATTTTAAATGTTATAATAAGCCAATGTAGTTGA  
GACCAAGGAAATGAGCATTGAGAACAACAACTTGAAGTCTGGTGCCAGGGTTGTTGGACCTC  
ACACCCTGTCTCTGAGCCACCCGGAAGTGACATAAAGGACGCTGTGTGATCAAGT  
TCTGGACACTTTTCTGGGATGCGTACCCTGACTATTTATGTCACAAATCTAGTGGGT  
GACGCTGCCCTGCAAGTTTTCAATGTCCCTGCATCCTATGAAGTCATAATGTCTGAC  
TGTAAGTGGAGGTTTTCTGCATTTTTTACTTTTCGAAAATAGAGGTTTGGGCTGAGAAT  
TCTAAACGCATGTGCCTGGGTGGGACGTCAAGTCAGGGTTCTCATCAAAGCTGAGAA  
GTGGCTGGAATGTTTCAGCTTGGTGTCTGGGGAGGATCCTGTGAGCTATGTAGA  
GAGGTGGCTCTTCAGCCTGACTCAGTGTGGGCTGAACGAAGTACCTGCAGAACACACGGT  
AGCAGGCTCCAAAATCGTCACCTCAAGCATGCGTGCAAGCAAACCTCCGAGAACTCC  
GTTTTCTGCTCGGCAGACGTGTGAGCAGTACCCAGAAGTCTCAAGCCAAAAGGGGAGCCTCG  
CTCGCTGGCTCCTCTGCAGGTGCCTTATCGACCTGTGCTCTTCTCTTTTCCCGTGTCAA  
GATGTTGGACAGGATCTTGTAAGTGAACATACTACAAATGAGTTACTATGAAATAAATTC  
TGACCTGTGGACCGAAAAA

**FIG. 10**

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5' -CCCACGCGTCCGCACGTGACCAGTTATATTGCTATGAAAATGGTGGAGATGCCTCGTA  
GAAGGCGAGTGCTGGGTGCACATGTGACATTTTCTTCAGGGAGCGACTCATGGTGAGACCA  
GAGAGGGCTCTTAGCTTGCAGGACTGGCTTCTGCAGGGCATCTGTGTCTGCTGTTAAAAG  
CAGGAGGAGGTGCTTGTCTGGGAGCTTTAAGTGTGCTGGGCTCATATCGTCCCGTTTGCA  
AGGAATTGGGCCACCTTGAGAGGCCATAGTTGATGGCTATGGGACACACACACACTTTTT  
CCTTAAGTCCACCAAAATGCCTGCCTGTACACACACACACACACACACACACACACAC  
ACACACACACTGGCTGGTTTGCTGATGGAACCCTTAGACCACCCTCCCACCCCACCCCT  
CCCCAAGCATGGCTGCAAGTGTGAGGGCACCACACCTTCCTCTTCTTGACATTTCTTTGA  
ACAGACATCATTTTGTAGGATCTTAATTTATACATTTTTTTTTCAGGTCATAAAATGTGGGA  
TGAACATACTTTGAACCCAGTGCCTTCAGGGTCCATTGACTAGGGAGGCACTGTCTTAG  
GGGACAGGTATGTGCAAGGCCTTACCCACCAGTGGCTTCTCGCTGCAGGTCATGTTTGTG  
GCACTTGTTCTTTAAGGTGAGGGTCTTATGACCGACTGTTCTGAGACAGCCCTGTGTCAG  
GCAAGCTCTTTCACAGGGTTGTAGGTATTTCCAAGACGCCATAGGAACCAGACAGTGAAT  
CATAGCTATCAGTTTGCTGTGGGCAAGGAACCTCTTTTGGCCACCTGGTAACAAAATTT  
TATGTCTGTAAATTTTTTCTTGCTATTTAAAAAATAATCAATCTTACGTTTTTCTGT  
AGGAAAAAAAAAACAAGTAAAGAACAGGCCATATTTTCAGGTCAAAGGCTTCTTCCTGC  
TGGTAAATGGGACTGAAGACTTTCTTACATCATTATTAAGGCTAATTGCTGAACCACT  
AGAGTATATGAACGTGTTTGTGAATGATATTAGCCATAGTCTCCTGAGGTGTTTCCTTG  
GCCTGAGTGGTAACATTGTTTTGCTTATGGAGATGCTGTAACCTAGTGACTCAGCT  
TATCCTATTGTGCATGGCTGTCTGGAAAGCCAGCGTACAAGTGGGGCTTTGCCTGCCCTG  
TGTACAGAGGGTGGGTGGGAAAGAGTGAATTATTTAATTTTAAATGTTATAATAAGCCA  
ATGTAGTTGAGACCAAGGAAATGAGCATTGAGAACACAACTTGAAGTCTGGTGCCAGGG  
TTGTTGGACCTCACACCTGTCTCTGAGCCACCCGGAAGTGACATAAAGGACGCTGTGTG  
ATCAAGTTCTGGACACTTTTCTGGGATGCGTACCCTGGACTATTTATGTCACAAATCTA  
GTGGGTGACGCTGCCCTGCAAGTTTTCAATGTCCCTGCATCCTATGAAGTCATAATGTC  
TGACTGTACTGGAGGTTTTCTGCATTTTTTACTTTTCGAAAATAGAGGTTTGGGCTGAG  
AATTCTAAACGCATGTGCCTGGGTGGGACGTCAAGTCAGGGTTCTCATCAAAGCTGAGAA  
GTGGCTGGAATGTTTCAGCTTGGTGTCTGGGGAGGATCCTGTGAGCTATGTAGAGAGGTGG  
CTCTTCAGCCTGACTCAGTGTGGGCTGAACGAAGTACCTGCAGAACACACGGTAGCAGGC  
TCCAAAATCGTCACCTCAAGCATGCGTGCAAGCAAACCTCCGAGAACTCCGTTTTCTGCT  
CGGCAGACGTGTGAGCAGCTACCCAGAAGTCTCAAGCCAAAAGGGGAGCCTCGCTCGCTG  
GCTCCTCTGCAGGTGCCTTATCGACCTGTGCTCTTCTCTTTTCCCGTGTCAAAGATGTTG  
GACAGGATCTTGTACTTGAAACATACTACAAATGAGTTACTATGAAATAAATTCTGACCT  
GTGGACCGAAAAAAAAAAAAAAAA

**FIG. 11**

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5' - CCCACGCGTCCGCGCCGAGGGACGCGGCGTCAAGTGCGTGCTGGTGGGCGACGGCGCGGT  
GGGCAAGACCAGCCTGGTGGTCAGCTACACCTAACGGCTACCCACCGAGTACATCCC  
TACGGCCTTCGACAACTTCTCGGCCGTGGTGTCTGTAGATGGGCGGCCTGTGAGACTCCA  
GCTCTGTGACACTGCAGGACAGGATGAGTTTGACAAGCTGAGGCCCTCTGCTACACCAA  
CACAGACATCTTCCTGCTGTGCTTCAGCGTGGTGAGCCCCACATCCTTCCAGAACGTGGG  
CGAGAAGTGGGTTCCAGAGATTCGACGTCACTGCCCAAAGGCCCCCATCATCCTGGTCGG  
GACACAGTCGGACCTCAGGGAGGACGTCAAAGTGCTCATAGAACTGGACAAGTGCAAAGA  
GAAGCCGGTGCCTGAAGAGGCGGCGAAGCTGTGCGCGGAGGAAGTCAAAGCTGTCTCCTA  
CATCGAGTGCTCAGCGTTGACTCAGAAAAACCTCAAAGAGGTTTTCGACGCCGCCATTGT  
TGCTGGTATCCAGCACTCAGACTCCCAGCTACAGCCAAAGAAGTCTAAAAGCAGGACCCC  
GGATAAGGTGCGGGACCTGTCCAAGTCTTGGTGGAGGAAGTATTGCTGCCTGGCCTGACT  
CTCGCAAATAGCAGGTGTTTAAAGCTGCAACAGCTCTTTATGGACGAGGCTGTATAGGAT  
GAGCCCCAAAGCACCTCTTCTGCCCTTAACTTCCTGTGTGCGGGAGCTTAGGGCTGAGA  
TTCATATGCAAATACGTTTTTTTAAAATTGAAAGTTACATTTTTTTTCTGTTAAGTCT  
GGAAGCTTTGAGCTGTTAGACCTCCGGATTAAATTTATATTCCATATGAAAAGGGCTCTTC  
AAAAGCGGGGTGTCAGCATGAAGTCTGCTGGTGTGTTGTACAGGACAAAGGAGAATGAA  
TGGGGAACCTTCCTCCTGAATTAAGGGGCTAACTGAAGGGCTCAATTGCAAGGGCA

**FIG. 12**

5' - CGCGGTGGGCAAGACCAGCCTGGTGGTCAGCTACACCTAACGGCTACCCACCGAGTA  
CATCCCTACGGCCTTCGACAACTTCTCGGCCGTGGTGTCTGTAGATGGGCGGCCTGTGAG  
ACTCCAGCTCTGTGACACTGCAGGACAGGATGAGTTTGACAAGCTGAGGCCCTCTGCTA  
CACCAACACAGACATCTTCCTGCTGTGCTTCAGCGTGGTGAGCCCCACATCCTTCCAGAA  
CGTGGGCGAGAAAGTGGGTTCCAGAGATTCGACGTCACTGCCCAAAGGCCCCCATCATCCT  
GGTCGGGACACAGTCGGACCTCAGGGAGGACGTCAAAGTGCTCATAGAACTGGCTTCTGC  
AGGGCATCTGTGTCCTGCTGTTAAAAGCAGGAGGAGGTGCTTGTCTGGGAGCTTTAAGTG  
TGCTGGGCTCATATCGTCCCGTTTGCAAGGAATTGGGCCACCTTGAGAGGCCATAGTTGA  
TGGCTATGGGACACACACACACTTTTTCTTAAGTCCACCAAATGCCTGCCTGTACACA  
CACACACACACACACACACACACACACACTGGCTGGTTGCTGATGGAACCC  
TTAGACCACCCTCCCACCCCCACCCCTCCCCAAGCATGGCTGCAAGTGTCAGGGCACCAC  
ACCTTCCTCTTCTTGACATTTCTTTGAACAGACATCATTTTGTAGGATCTTAATTTATAC  
ATTTTTTTCAGGTCATAAAATGTGGGATGAACATACTTTGAACCCAGTGCCTTCAGGGT  
CCATTGACTAGGGAGGCACTGTCTTAGGGGACAGGTATGTGCAAGGCCTTACCCACCAGT  
GGCTTCT

**FIG. 14**

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5' -CCCACGCGTCCGGCGCGAGCTTAGCAGATCTCCACTTACCGAACATCTAGAGAGTCGCGC  
CGCGCGCCGACGGAGCGGACATGGGCAGAGCGATGGTGGCCAGGCTAGGGCTGGGGTTGC  
TGCTTCTGGCACTGCTCCTACCCACGCAGATTTACTGCAACCAACATCTGTTGCACCGT  
TTCCCGGTAAACCAGAAATATTTCTGCTTCCCCAAATCCAAGTAACGCTACCACCAGAGGGG  
GTGGCAGCTCCCTGCAGTCCACAGCTGGTCTCCTGGGCTCTCTCTCTCTCTCTCTCTCCACAT  
CTCTACTGTTAGAGACTCAGGCCAGGAAACGTCTCTACTTCCCCTCCTCTAGACCTACC  
CCAAATGGCAACCACAAGTCCAATGTGATCAGGAAGAAACAGGTCCACCTCGAATTGGCT  
GTTACCATATCTCAACAGAAACACGGAGAATTTCGAAATTTCGACGGGATTAAAGGACGCG  
TGAAAGGTTTGGAGAGAAGAGAGATGCCGCTATTGAATCTGCTGGAGTTTTACATCCCAAG  
ATGAAGACAGCATTTCAGAAATTGATGTGATTTCTTGAATGTGGCTTAGGAAAAGTGGACA  
CTTAAACTCTCATTGAAATTGGGCACAGGTTTGTATGTAGAGATAAGGACGGGGTTCGG  
AATGGAGACCCATTTTGTCAATTGATTCATCTGACCGATAAGGCCATAGTGCAGTTAGGTG  
ATATTCGAAAGCTTCTTTGATGCTCTTTATGTATATGTTGGAAGGAACCTACCAGGCGTTG  
CTTTAAATTCCCAATGTGTTGTTTCGTTACTACTAATTTAATACCGTAAGCTCTAGGTAA  
AGTTCCATGTTGTTGAACTCTGACTGTTCTCTTTGGAATTGAACGTTTTGCATCCTCCTC  
CTGTGGCTTTAGGTCTGACATTGTATTTGACCTTTACTAGTAATTAACATGTGCCAGGCA  
ATGGTGGATTGGAACCCATCCCCAAGTCCAGCCACCACTGAATAAATCTGATTTCAAAAG  
TCAAACAGTAGACATTTCCCATTTGTCGTTTCTCACTCACCACAAGCACCAAATTCCTAG  
AGTACACTGGTTCCAGAGAGCAGAATCATGTTGGCCTTGGCTAATTTCAAAATGCTGTCT  
TTTACTTTGGTATATGTTGAGGGCTTTTTTATAATTTAAAGTGTGTTCTGTAGCAAGGC  
AAAAATTATGAGTCTTAATTCTACAGGCAATATGCAAAGGAGCCAAAACCTGTAAACCCA  
GCATTTGGGATGTGAAGACTGGAAGCTAACTCTCATTGAATTCACAAAGTCTTTTATACA  
ATTTCTGTACATACTTTTTTTTTTTTTTAAGAGAAAAACAAACGGTGGATCAGAATAGCCA  
CGTTTGAATACTTTGGTTATCCATTATATTTTTTAGATAGTTATTGGTCTGTGCCTGA  
AAGGGGGCTTGGTCTACCGTAAGTTTTTCCAATTTCTTGTATATACATACCTTCTAA  
AACCTAGACATTTCTGAAAAAATCTTTTGTTCGCATGGTCACACACTGATGCTTACCC  
GTACAGTAGTCTTGATAACCAGAGTCATTTTCTCCATCTTTAGAAACCTTCCTGGGAAGA  
AGGAGAGCTCACAGACCCGAAGCTACTGTGTGTGTGAATGAACACTCCCCTTGCCCTCACA  
CCTGAATGCTGTACATCTATTTGATTGTAAATTGTGTTTGTGTATTTATGCTTTGATTCA  
TAGTAACTTCTCATGTTATGGAATTGATTTGCATTGAACACAAACTGTAAAAA  
AAAAAGGGCGGGCCGCCGCCCGCG  
ATGGCCCCGCAGCAAGGCCGGCCGGCGCTGCCCGCCCGCTGCGAGCCGCCGGCGGCGCCG  
CCGGTACCGCCTCGCCGAGAGCGCGGGGGCGCGGGGGCGCGGGGCCCGGGGTGTCCGGG  
GGTCGGGGGGCGCGCGGGCGGGCGCCGAGGGACGCGGCGTCAAGTGCGTGCTGGTCCGGCGAC  
GGCGCGGTGGGCAAGACCAGCCTGGTGGTCAGCTACACCACTAACGGCTACCCACCGAG  
TACATCCCTACGGCCTTCGACAACTTCTCGGCCGTGGTGTCTGTAGATGGGCGGCCTGTG  
AGACTCCAGCTCTGTGACACTGCAGGACAGGATGAGTTTGACAAGCTGAGGCCCTCTGC  
TACACCAACACAGACATCTTCTGCTGTGCTTCAGCGTGGTGAGCCCCACATCCTTCCAG  
AACGTGGGCGAGAAGTGGGTTCCAGAGATTCGACGTCACTGCCCAAAGGCCCCCATCATC  
CTGGTCGGGACACAGTCCGACCTCAGGGAGGACGTCAAAGTGCTCATAGAAGTGGACAAG  
TGCAAAGAGAAGCCGGTGCCTGAAGAGGCGGCGAAGCTGTGCGCGGAGGAAGTCAAAGCT  
GTCTCCTACATCGAGTGTCTCAGCGTTGACTCAGAAAAACCTCAAAGAGGTTTTTCGACGCC  
GCCATTGTTGCTGGTATCCAGCACTCAGACTCCCAGCTACAGCCAAAGAAGTCTAAAGC  
AGGACCCCGGATAAGGTGCGGGACCTGTCCAAGTCTTGGTGGAGGAAGTATTGCTGCCTG  
GCCTGACTCTCGCAAATAGCAGGTGTTAAGCTGCAACAGCTCTTTATGGACGAGGCTGT  
CATAGGATGAGCCCCAAAGCACCCTCTTCTGCCCTTAACCTCCTGTGTGCGGGAGCTTAG  
GGCTGAGATTCATATGCAAATACGTTTTTTTTTAAAAATTGAAAGTTACATTTTTTTCTG

**FIG. 13A**

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TTAAGTCTGGAAGCTTTGAGCTGTAGACCTCCGGATTAATTTATATTCCATATGAAAAGG  
GCTCTTCAAAGCGGGGTGTCAGCATGAAGTTCTGCTGTGTTGTACAGGACAAAGGAGAAT  
GAATGGGACCTTCTCCTGATTAAGGGCTACTGAGGGCTCAGTGCAGGGCACGTGTGCACC  
AGGCTTGGTGAGAGTGAGCAAGCGTGAGCTTTGAAACCACACGAGCCACCCCCGGTTTTG  
TAAGGGCAAAGATCTGAAACCAGCAAGGGCCTTCTGCTTACGAAACCTCGAGCCCATCCC  
TTCTGTTTACTCAGATTCTCTTAGGATTTTAAAACAACCAACATCCCACAGCCTACTGG  
CATAGTGTGGCGAACAGTGCACCTGCTTGTACGGTTTTGTTTTGTTTTTTTAAATCAC  
GTGACCAGTTATATTGCTATGAAAATGGTGGAGATGCCTCGTAGAAGGCGAGTGTGGGT  
GCACATGTGACATTTTCTTCAGGGAGCGACTCATGGTGAGACCAGAGAGGGCTCTTAGCT  
TGCAGGACTGGCTTCTGCAGGGCATCTGTGTCCTGCTGTTAAAAGCAGGAGGAGGTGCTT  
GTCTGGGAGCTTTAAGTGTGCTGGGCTCATATCGTCCCCTTTGCAAGGAATTGGGCCACC  
TTGAGAGGCCATAGTTGATGGCTATGGGACACACACACACTTTTTCCTTAAGTCCACCAA  
AATGCCTGCCTGTACACACACACACACACACACACACACACACACACACTGGCT  
GGTTTGCTGATGGAACCCCTTAGACCACCCTCCACCCCCACCCCTCCCCAAGCATGGCTG  
CAAGTGTGAGGGCACCACACCTTCCCTCTTCTTGACATTTCTTTGAACAGACATCATTTTG  
TAGGATCTTAATTTATACATTTTTTTTTCAGGTCATAAAATGTGGGATGAACATACTTTGAA  
CCCCAGTGCCTTCAGGGTCCATTGACTAGGGAGGCACTGTCTTAGGGGACAGGTATGTGC  
AAGGCCTTACCCACCAGTGGCTTCTCGCTGCAGGTGATGTTTGTGGCACTTGTTCTTTAA  
GGTGAGGGTCTTATGACCGACTGTTCTGAGACAGCCCTGTGTGAGGCAAGCTCTTTCACA  
GGGTTGTAGGTATTTCCAAGACGCCATAGGAACCAGACAGTGAATCATAGCTATCAGTTT  
GCTGTGGGCAAGGAACCTCTTTTTTGCCACCTGGTAACAAAATTTTATGTCTGTAAATTT  
TTTCTTGCTATTTAAAAA

**FIG. 13B**

5' - CCCACGCGTCCGCGGACGCGTGGTTCAGGGTCCATTGACTAGGGAGGCACTGTCTTAGGG  
GACAGGTATGTGCAAGGCCTTACCCACCAGTGGCTTCTCGCTGCAGGTGATGTTTGTGGC  
ACTTGTCTTTAAGGTGAGGGTCTTATGACCGACTGTTCTGAGACAGCCCTGTGTGAGGC  
AAGCTCTTTCACAGGGTGTAGGTATTTCCAAGACGCCATAGGAACCAGACAGTGAATCA  
TAGCTATCAGTTGCTGTGGGCAAGGAACCTCTTTTTGGCCACCTGGTAACAAAATTTTA  
TGTCTGTAAATTTTTTCTTGCTATTTAAAAAATCAATCTTACGTTTTTCTGTAGG  
AAAAAACAAGTAAAAGAACAGGCCATATTTCAAGGTCAAAGGCTTCTTCCTGCTGG  
TAAATGGGACTGAAGACTTTCTTACATCATTTATTAAGGCTAATTGCTGAACCACTAGA  
GTATATGAACGTGTTTGTGAATGATATTAGCCATAGTCTCCTGAGGTGTTTCTTGTGGCC  
TGAGTGGTAACATTGTTTTGCTTATGGAGATGCTGTAAGTACCTAGTGAAGTCAAGCTTAT  
CCTATTGTGCATGGCTGTCTGGAAAGCCAGCGTACAAGTGGGGCTTTGCCTGCCCTGTGT  
ACAGAGGGTGGGTGGGAAAGAGTGAATTATTTAAATTTTAAATGTTATAATAAGCCAATG  
TAGTTGAGACCAAGGAAATGAGCATTGAGAACACAACTTGAAGTCTGGTGCCAGGGTTG  
TTGGACCTCACACCCTGTCTCTGAGCCACCCGGAAGTGACATAAAGGACGCTGTGTGATC  
A

**FIG. 17**

5'-CCCACGCGTCCGTATGAAAATGGTGGAGATGCCTCGTAGAAGGCGAGTGCTGGGTGCACATG  
TGACATTTTCTTCAGGGAGCGACTCATGGTGAGACCAGAGAGGGCTCTTAGCTTGCAGGAC  
TGGCTTCTGCAGGGCATCTGTGTCCTGCTGTTAAAGCAGGAGGAGGTGCTTGTCTGGGAGCTTTAA  
GTGTGCTGGGCTCATATCGTCCCGTTTGCAAGGAATTGGGCCACCTTGAGAGGCCA  
TAGTTGATGGCTATGGGACACACACACACTTTTTCCTTAAGTCCACCAAATGCCTGCCTGTA  
CACACACACACACACACACACACACACACACACACTGGCTGGTTTGCTGATGGAA  
CCCTTAGACCACCCTCCACCCCCACCCCTCCCCAAGCATGGCTGCAAGTGTCAGGGCACCACAC  
CTTCCTCTTCTTGACATTTCTTTGAACAGACATCATTTTGTAGGATCTTAATTTATAC  
ATTTTTTTTCANGTCATAAAATGTGGGATGAACATACTTTGAACCCCAGTGCCTTCAGGGTC  
CATTGACTAGGGAGGCACTGTCTTAGGGGACAGGTATGTGCAAGGCCTTACCCACCAGT  
GGCTTCTCGCTGCAGGTCATGTTTGTGGCACTTGTTCTTTAAGGTGAGGGTCTTATGACCG  
ACTGTTCTGAGACAGCCCTGTGTCAGGCAAGCTCTTTCACAGGGTTGTAGGTATTTT  
CAAGACGCCATAGGAACCAGACAGTGAATCATAGCTATCAGTTTGCTGTGGGCAAGGAACC  
TCTTTTTGGCCACCTGGTAACAAAATTTTATGTCTGTAAATTTTTTCTTGCTATTTAAAA  
AAAAAATCAATCTTACGTTTTTCTGTAGGAAAAAAAAAAAAACAAGTAAAAGAACAGGCCAT  
ATTTCAAGTCAAAGGCTTCTTCCTTCTGGTAAATGGGACTGAAGACTTTCTTACATCA  
TTATTTAAAGGCTAATTGCTGAACCACTAGAGTATATGAACCTGTTTGTGAATGATATTAGC  
CATAGTCTCCTGAGGTGTTTCCTTGTGGCCTGAGTGGTAACATTGTTTTGCTTATGGAGA  
TGCTGTAAGTACCTAGTGAAGTCAAGCTTATCCTATTGTGCATGGCTGTCTGGAAAGCCAG  
CGTACAAGTGGGGCTTTGCCTGCCCTGTGTACAGAGGGTGGGTGGGAAAGAGTGAATT  
ATTTAATTTTAAATGTTATAATAAAGCCAATGTAGTTGAGACCAAGGAAATGAGCATTGAGA  
ACACAAACTTGAAGTCTGGTGCCAGGGTTGTTGGACCTCACACCCTGTCTCTGAGCCACC  
CGGAAGTGACATAAAGGACGCTGTGTGATCA

**FIG.\_15**

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5' -CCCACGCGTCCGGTGACCAGTTATATTGCTATGAAAATGGTGGAGATGCCTCGTAGAAGG  
CGAGTGCTGGGTGCACATGTGACATTTTCTTCAGGGAGCGACTCATGGTGAGACCAGAGA  
GGGCTCTTAGCTTGCAGGACTGGCTTCTGCAGGGCATCTGTGTCCTGCTGTTAAAAGCAG  
GAGGAGGTGCTTGTCTGGGAGCTTTAAGTGTGCTGGGCTCATATCGTCCCGTTTGCAAGG  
AATTGGGCCACCTTGAGAGGCCATAGTTGATGGCTATGGGACACACACACACTTTTTCCT  
TAAGTCCACCAAAATGCCTGCCTGTACACACACACACACACACACACACACACACACACA  
CACACACTGGCTGGTTTGCTGATGGAACCCTTAGACCACCCTCCACCCCCACCCCTCCC  
CAAGCATGGCTGCAAGTGTGAGGGCACCACACCTTCCTCTTCTTGACATTTCTTTGAACA  
GACATCATTTTGTAGGATCTAATTTATACATTTTTTTTCAGGTCATAAAATGTGGGATGAA  
CATACTTTGAACCCAGTGCCTTCAGGGTCCATTGACTAGGGAGGCACTGTCTTAGGGGA  
CAGGTATGTGCAAGGCCTTACCCACCAGTGGCTTCTCGCTGCAGGTCATGTTTGTGGCAC  
TTGTTCTTTAAGGTGAGGGTCTTATGACCGACTGTTCTGAGACAGCCCTGTGTGAGGCAA  
GCTCTTTCACAGGGTTGTAGGTATTTCCAAGACGCCATAGGAACCAGACAGTGAATCATA  
GCTATCAGTTTGTGCTGTGGGCAAGGAACCTCTTTTTGGCCACCTGGTAACAAAATTTTATG  
TCTGTAAATTTTTTCTTGCTATTTAAAAAATAATCAATCTTACGTTTTTCTGTAGGAA  
AAAAAAAACAAGTAAAAGAACAGGCCATATTTAGGTCAAAGGCTTCTTCCTGCTGGTA  
AATGGGACTGAAGACTTTCTTACATCATTATTTAAAGGCTAATTGCTGAACCACTAGAGT  
ATATGAAGTGTGTTGTGAATGATATTAGCCATAGTCTCCTGAGGTGTTTCCTTGTGGCCTG  
AGTGGTAACATTGTTTTGCTTATGGAGATGCTGTAAGTACCTAGTGACTCAGCTTATCC  
TATTGTGCATGGCTGTCTGGAAAGCCAGCGTACAAGTGGGGCTTGCCTGCCCTGTGTAC  
AGAGGGTGGGTGGGAAAGAGTGAATTATTTAATTTTAAATGTTATAATAAGCCAATGTA  
GTTGAGACCAAGGAAATGAGCATTGAGAACAACAACTTGAAGTCTGGTGCCAGGGTTGTT  
GGACCTCACACCCTGTCTCTGAGCCACCCGGAAGTGACATAAAGGACGCTGTGTGATCAA  
GTTCTGGACACTTTTCTGGGATGCGTACCCTGGACTATTTATGTCACAAATCTAGTGGG  
TTGACGCTGCCCTGCAAGTTTTCAATGTCCCTGCATCCTATGAAGTCATAATGTCTGACT  
GTACTGGAGGTTTTCTGCATTTTTTACTTTTCGAAAATAGAGGTTTGGGCTGAGAATTC  
TAAACGCATGTGCCTGGGTGGGACGTCAAGTCAGGGTTCTCATCAAAGCTGAGAAGTGGC  
TGGAATGTTGAGCTTGGTGTCTGGGGCAGGCTCCAAAATCGTCACCTCAAGCATGCGTGC  
AAGCAAACCTCCGAGAACTCCGTTTTCTGCTCGGCAGACGTGTGAGCAGCTACCCAGAAG  
TCTCAAGCCAAAAGGGGAGCCTCGCTCGCTGGCTCCTCTGCAGGTGCCCTTATCGACCTGT  
GCTCTTCTCTTTTCCCGTGTCAAAGATGTTGGACAGGATCTTGTACTTGAAACATACTAC  
AAATGAGTTACTATGAAATAAATCTGACCTGTGGACCGAAAAAAAAAAAAAAAAAAAAA  
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA

**FIG. 16**